

Notice of Allowability

Application No.

10/761,881

Examiner

Ram N. Kackar

Applicant(s)

HUANG ET AL.

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment dated 7/18/2007.
2. ☒ The allowed claim(s) is/are 1-12 and 21-28.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Claims 1, 9 and 21 are amended as below:

Claim 1 is amended as below:

An insert ring assembly for a process chamber, comprising:

an insert ring having a ring body defining a central ring opening and a right-angled annular step having an upper step surface provided on said ring body and spaced-apart from said central ring opening; and

a shadow ring encircling the insert ring so that insert ring bottom rests completely on the shadow ring and fully supporting said insert ring, an outer portion of said shadow ring extending vertically higher than said upper step surface of said insert ring, and the top of the insert ring is disposed higher than the wafer support surface.

Claim 9 is amended as below:

An insert ring assembly for a process chamber, comprising:

a wafer support for supporting a wafer;

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an insert ring encircling said wafer support, said insert ring comprising a ring body defining a central ring opening and a right-angled annular step having an upper step surface provided on said ring body and spaced-apart from said central ring opening;

a generally perpendicular flow space defined between said insert ring and said wafer support; and

a shadow ring encircling the insert ring so that insert ring bottom rests completely on the shadow ring and fully supporting said insert ring, an outer portion of said shadow ring extending vertically higher than said upper step surface of said insert ring, and the top of the insert ring is disposed higher than the wafer support surface.

Claim 21 is amended as below:

An insert ring assembly for a process chamber, comprising:

a wafer support for supporting a wafer;

an insert ring encircling said wafer support, said insert ring comprising a ring body defining a central ring opening and a right-angled annular step having a horizontal upper step surface and a horizontal lower step surface provided on said ring body and spaced-apart from said central ring opening;

a flow space defined between said insert ring and said wafer support;

a shadow ring encircling the insert ring so that insert ring bottom rests completely on the shadow ring and fully supporting said insert ring, an outer portion of said shadow ring extending vertically higher than said upper step surface of said insert ring, and the top of the insert ring is disposed higher than the wafer support surface; and

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wherein said annular step horizontal lower step surface is lower in a horizontal plane than an upper surface of said wafer support.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Randy W. Tung on 9/28/2007.

Allowable Subject Matter

2. Claims 1-12 and 21-28 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N. Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

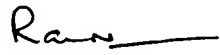
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571 272 1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Ram Kackar

Primary Examiner AU 1763